

What is claimed is:

1. An integrated device for oxygenating and filtering blood flowing through an extracorporeal blood circuit comprising:
  - 5 a bubble trap having an inlet for receiving venous blood and an outlet for supplying venous blood;
  - a blood pump having an inlet connected to receive blood from the outlet of the blood reservoir and an outlet;
  - a heat exchanger having a blood inlet connected to receive venous blood
  - 10 from the outlet of the pump and a blood outlet for supplying temperature controlled venous blood;
  - an oxygenator having an inlet connected to receive venous blood from the outlet of the heat exchanger and an outlet for supplying oxygenated blood;
  - an arterial blood filter having an inlet connected to receive oxygenated
  - 15 blood from the outlet of the oxygenator and an outlet for supplying filtered oxygenated blood; and
  - a monolithic housing including a first portion for defining the bubble trap, a second portion for defining the blood pump, a third portion for defining the heat exchanger, a fourth portion for defining the oxygenator and a fifth
  - 20 portion for defining the arterial blood filter.
2. The integrated device of claim 1 wherein the blood pump comprises a centrifugal pump.
- 25 3. The integrated device of claim 2 wherein the centrifugal pump has an axis and wherein the centrifugal pump is positioned within the monolithic housing such that the axis of the centrifugal pump is horizontal.
4. A system for establishing an extracorporeal blood circuit comprising:
  - 30 a bubble trap;
  - a blood pump;

- a heat exchanger;
  - an oxygenator;
  - an arterial blood filter; and
  - a housing for incorporating and interconnecting the bubble trap, the
- 5 blood pump, the heat exchanger, the oxygenator and the arterial blood filter into a monolithic structure, the housing having an inlet for supplying venous blood to the blood reservoir and an outlet for supplying oxygenated blood from the arterial blood filter.
- 10 5. The system of claim 4 wherein the blood pump comprises a centrifugal pump.
6. The system of claim 5 wherein the centrifugal pump has an axis and wherein the centrifugal pump is positioned within the housing such that the
- 15 axis of the centrifugal pump is horizontal.